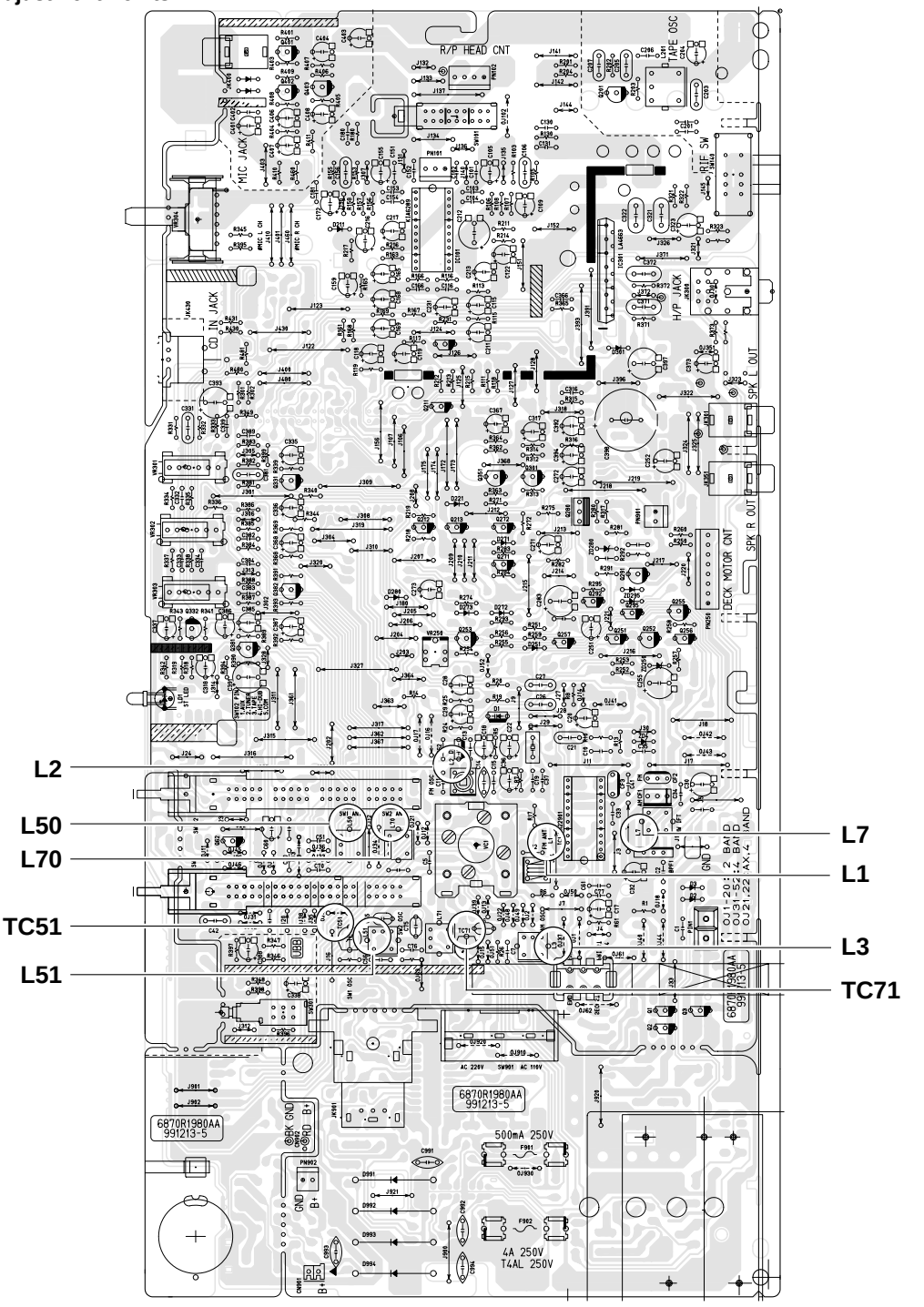
# ADJUSTMENTS

## 1. IMPORTANT

(1) Check Power-source voltage.
(2) Set the function switch to band being aligned.
(3) Turn volume control to minimum unless otherwise noted.
(4) Connect low side of signal source and output indicator to chassis ground unless otherwise specified.
(5) Keep the signal input as low as possible to avoid AGC and AC action.

## 2. TUNER ADJUSTMENT

**(1) Test & Adjustment Points**



## (2) AM(MW) IF Adjustment

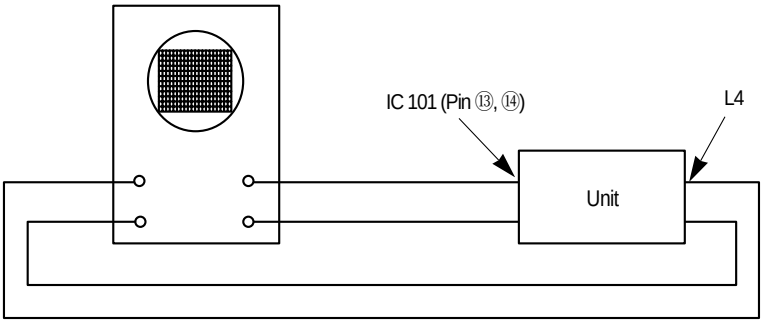



**Figure 1. AM(MW) IF Adjustment Connection Diagram**

| IF | Adjust for | Adjustment |
|---|---|---|
| 455kHz | Maximum | L7 (See figure 2) |

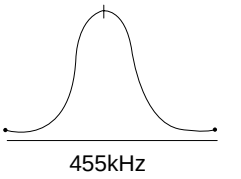



**Figure 2. AM(MW) IF Curve**

## (3) AM(MW) RF (Coverage & Tracking) Adjustment

| NO | ITem | SG Output | Adjust for | Adjustment |
|---|---|---|---|---|
| 1 | Coverage | 515kHz | Maximum | L3 |
| 2 | | 1,650kHz or 1,710kHz(U.S.A) | Maximum | VC1-3 |
| 3 | | Repeat steps 1 and 2 several times. | | |
| 4 | Tracking | 600kHz | Maximum | L4 |
| 5 | | 1,400kHz | Maximum | VC1-4 |
| 6 | | Repeat steps 4 and 5 several times. | | |

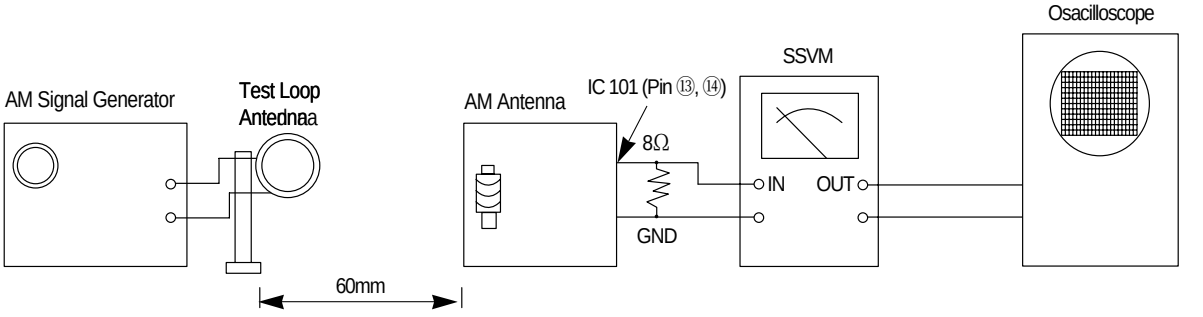



**Figure 3. AM(MW )RF Adjustment Connection Diagram**

## (4) FM RF (Coverage & Tracking) Adjustment

| NO | ITem | SG Output | Adjust for | Adjustment |
|---|---|---|---|---|
| 1 | Coverage | 87.35MHz(AX Band: 64MHz) | Maximum | L2 |
| 2 | | 108.25MHz(AX Band: 109MHz) | Maximum | VC1-2 |
| 3 | | Repeat steps 1 and 2 several times. | | |
| 4 | Tracking | 90MHz(AX Band: 68MHz) | Maximum | L1 |
| 5 | | 106kHz | Maximum | VC1-1 |
| 6 | | Repeat steps 4 and 5 several times. | | |

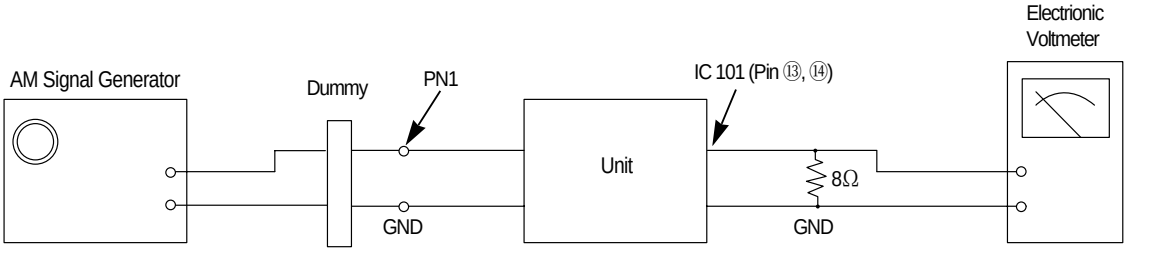



**Figure 4. FM RF Adjustment Connection Diagram**

## (5) SW1 RF(Coverage & Tracking) Adjustment

| NO | ITem | SG Output | Adjust for | Adjustment |
|---|---|---|---|---|
| 1 | Coverage | 2.2MHz | Maximum | L51 |
| 2 | | 7.3MHz | Maximum | TC51 |
| 3 | | Repeat steps 1 and 2 several times. | | |
| 4 | Tracking | 2.2MHz | Maximum | L50 |
| 5 | | 7.3MHz | Maximum | Confirm |
| 6 | | Repeat steps 4 and 5 several times. | | |

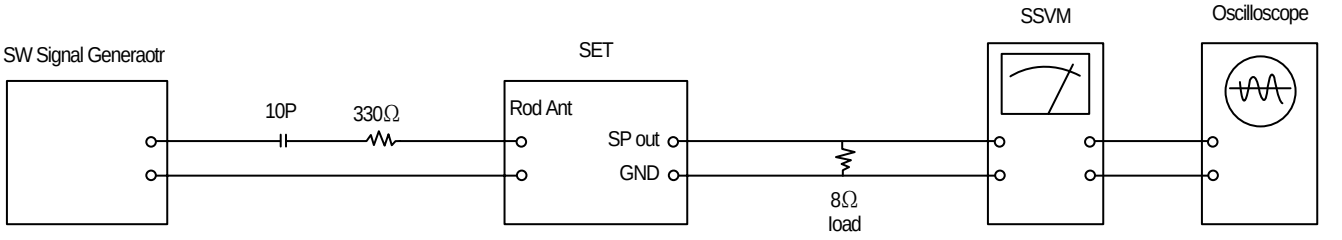



**Figure 5.SW1 RF Adjustment Connection Diagram**

## (6) SW2 RF(Coverage & Tracking) Adjustment

| NO | ITem | SG Output | Adjust for | Adjustment |
|---|---|---|---|---|
| 1 | Coverage | 6.8MHz | Maximum | L7 |
| 2 | | 22.5MHz | Maximum | TC71 |
| 3 | | Repeat steps 1 and 2 several times. | | |
| 4 | Tracking | 6.8MHz | Maximum | L70 |
| 5 | | 22.5MHz | Maximum | Confirm |
| 6 | | Repeat steps 4 and 5 several times. | | |

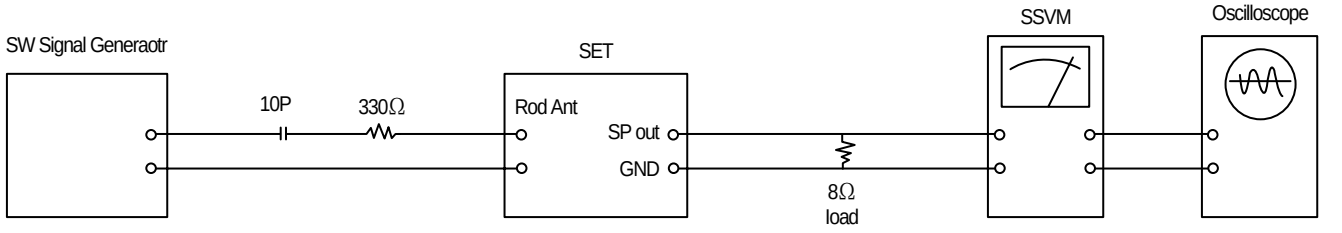



**Figure 6. SW2 RF Adjustment Connection Diagram**

# 3. TAPE DECK ADJUSTMENT

## (1) Azimuth Adjustment

| Deck Mode | Test Tape | Test Point | Adjust for | Adjustment |
|---|---|---|---|---|
| Playback | MTT-114 | L/R Output | R/L Maximum | Azimuth adjusting screw |

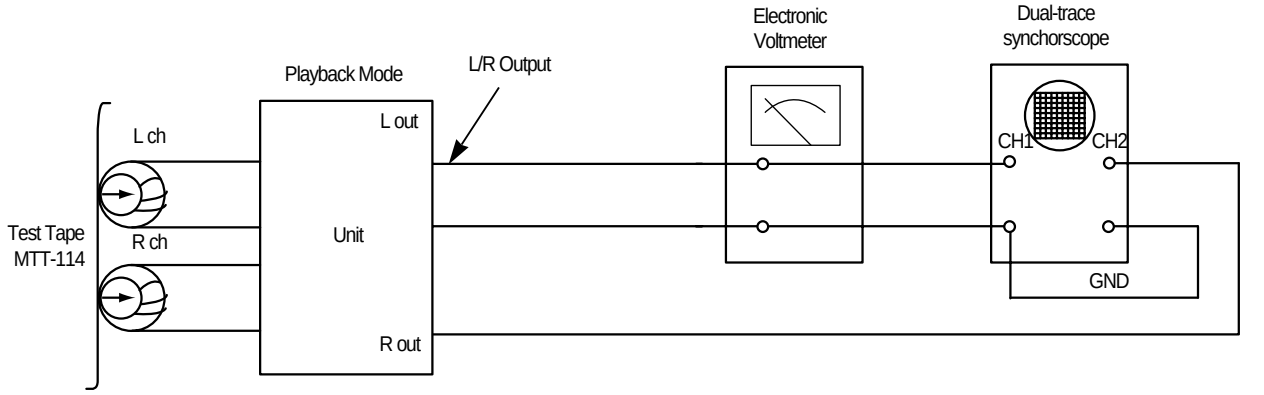



**Figure 7. Azimuth Adjustment Connection Diagram**

## (2) Moter Speed Adjustment

| Deck Mode | Test Tape | Test Point | Adjust for | Adjustment |
|---|---|---|---|---|
| NORMAL | MTT-111N | L/R Output | 3kHz±90kHz | VR250 |
| HI-DUBB | MTT-111N | L/R Output | 5.4kHz~6.2kHz | CONFIRM |

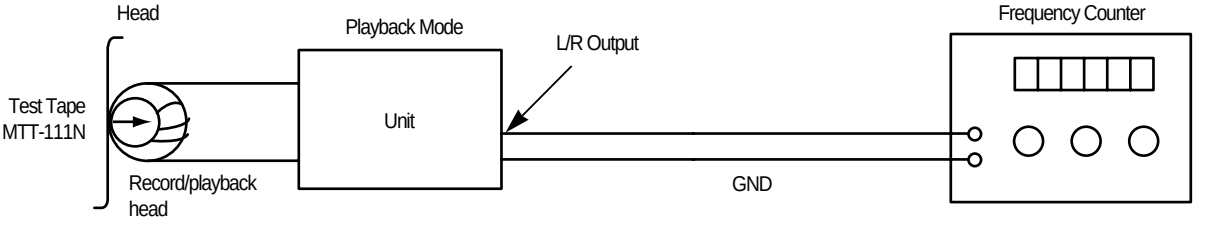



**Figure 8. Motor Speed Adjustment Connection Diagram**

## (3) Record Bias Adjustment

| Deck Mode | Test Tape | Test Point | Adjust for | Adjustment |
|---|---|---|---|---|
| Rec/Pause | MTT-5511 | Q201 EMITTER | 70kHz±500kHz | L201 |

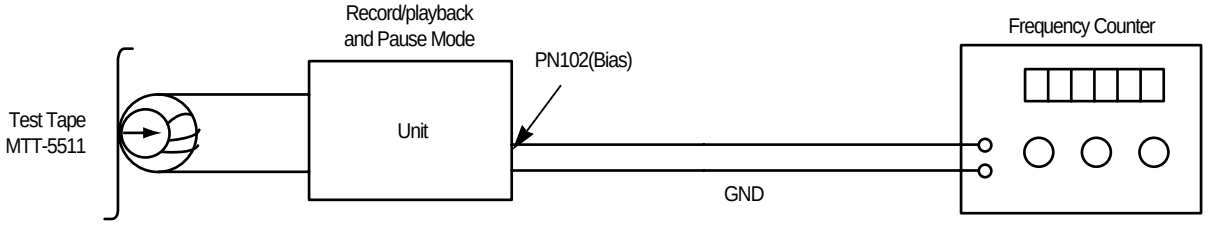
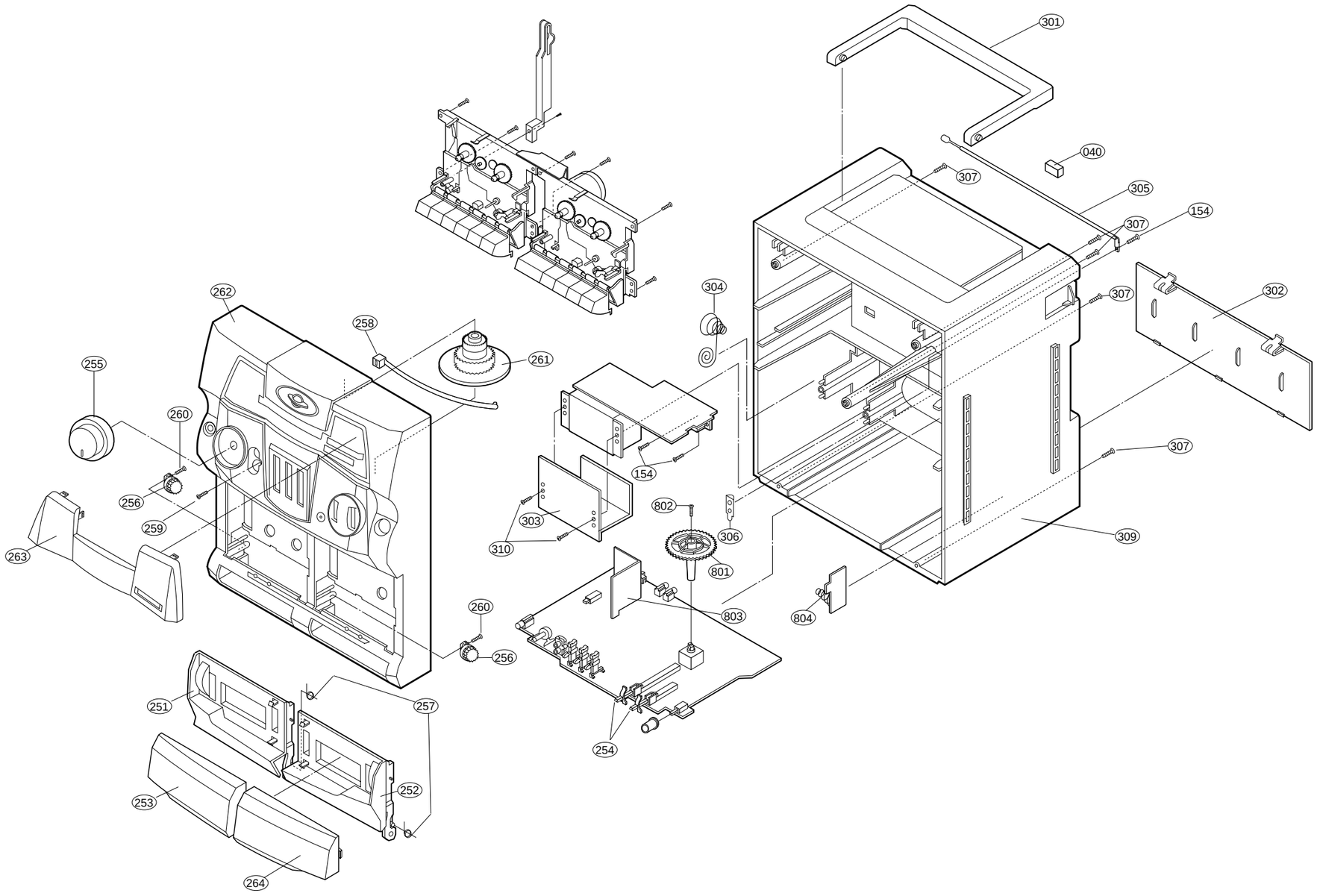



**Figure 9. Record Bias Adjustment Connection Diagram**

# EXPLODED VIEW/PARTS LIST

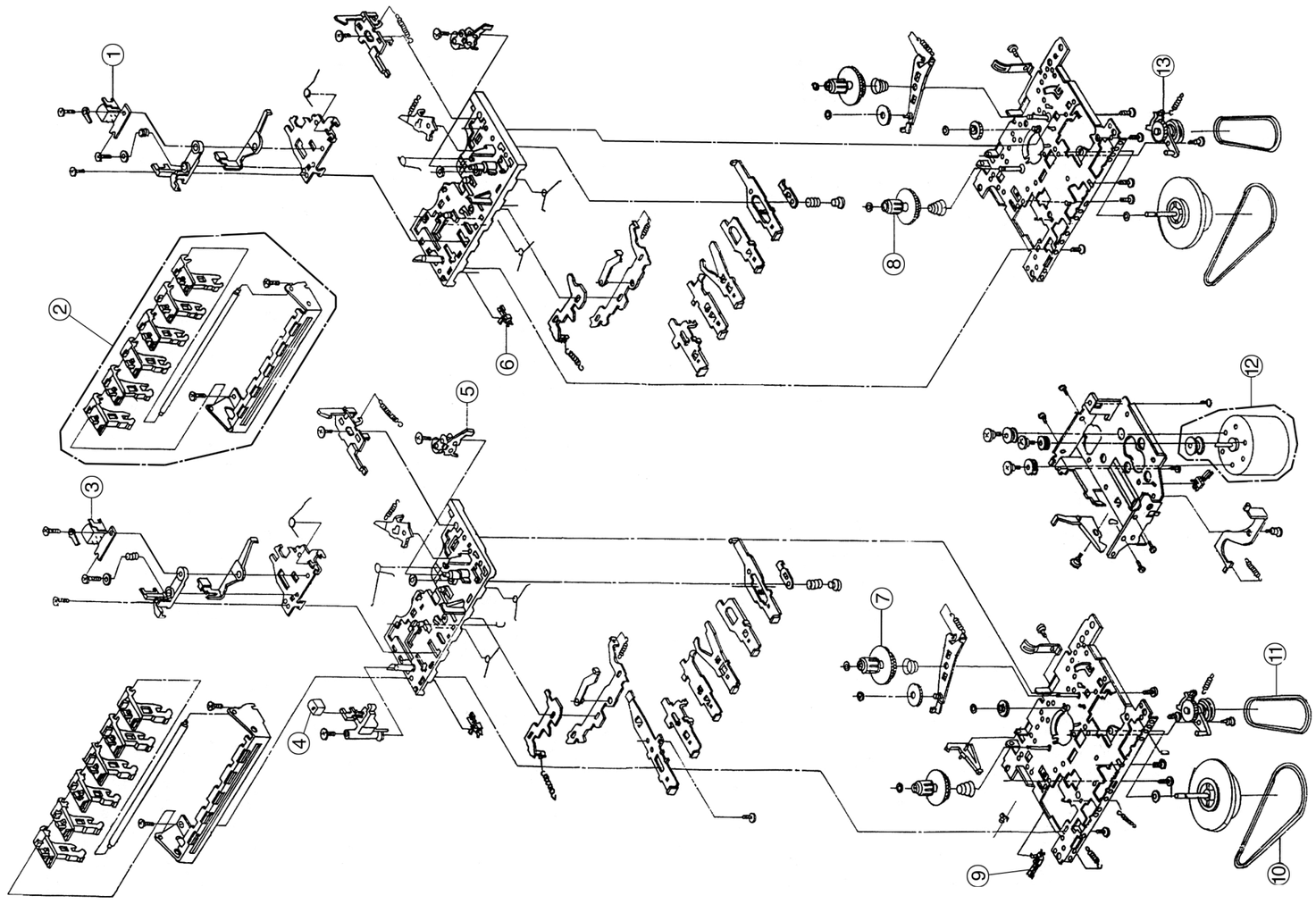
## ■ MAIN SECTION

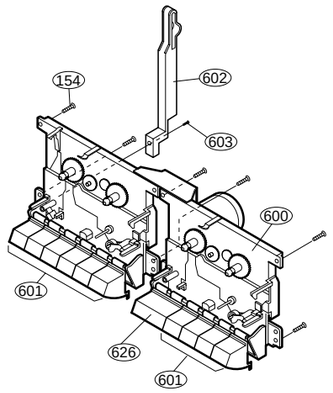



| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 040 | 256-638AAAA | PLATE VOL. SELECT |
| 154 | 353-025K | SCREW 3×12 |
| 251 | 3580SCA334A | DOOR CST-L |
| 252 | 3580SCA334B | DOOR CST-R |
| 253 | 3790S-M023B | WINDOW DOOR CST-L |
| 254 | 4940SCM028A | KNOB LEVER |
| 255 | 4940SCM030A | KNOB VOL. |
| 256 | 4901SK0001A | DAMPER GEAR ASSY |
| 257 | 442-750L | SPRING DOOR |
| 258 | 3868SC0004A | POINTER |
| 259 | 353-025W | SCREW 3×10.5 |
| 260 | 353-025C | SCREW 3×10 |
| 261 | 4940SCM066A | KNOB TUNING |
| 262 | 3110SCM057B | CASE FRONT |
| 263 | 3790SCM065B | WINDOW SCALE |
| 264 | 3790S-M024B | WINDOW DOOR CST-R |
| 301 | 3650SCM004A | HANDLE |
| 302 | 221-951AAAA | COVER BATT. |
| 303 | 3300S-M012A | PLATE SHIELD |
| 304 | 442-924H | SPRING BATT. |
| 305 | 532-800A | ANTENNA ROD |
| 306 | 254-630A | PLATE CONTROL |
| 307 | 353-025HAAA | SCREW 3×16 |
| 309 | 3110SCM037A | CASE REAR |
| 310 | 353-025C | SCREW 3×16 |
| 801 | 4560SCM004A | PULLEY GEAR |
| 802 | 1MPC0262018 | SCREW 2.6×6 |
| 803 | 4920RCP001A | HEAT SINK |
| 804 | 442-208AAAA | SPRING BATT. |

※ Refer to the R.P.L(Replacement Parts List)

## ■ DECK SETCTION (Auto-Stop Deck)

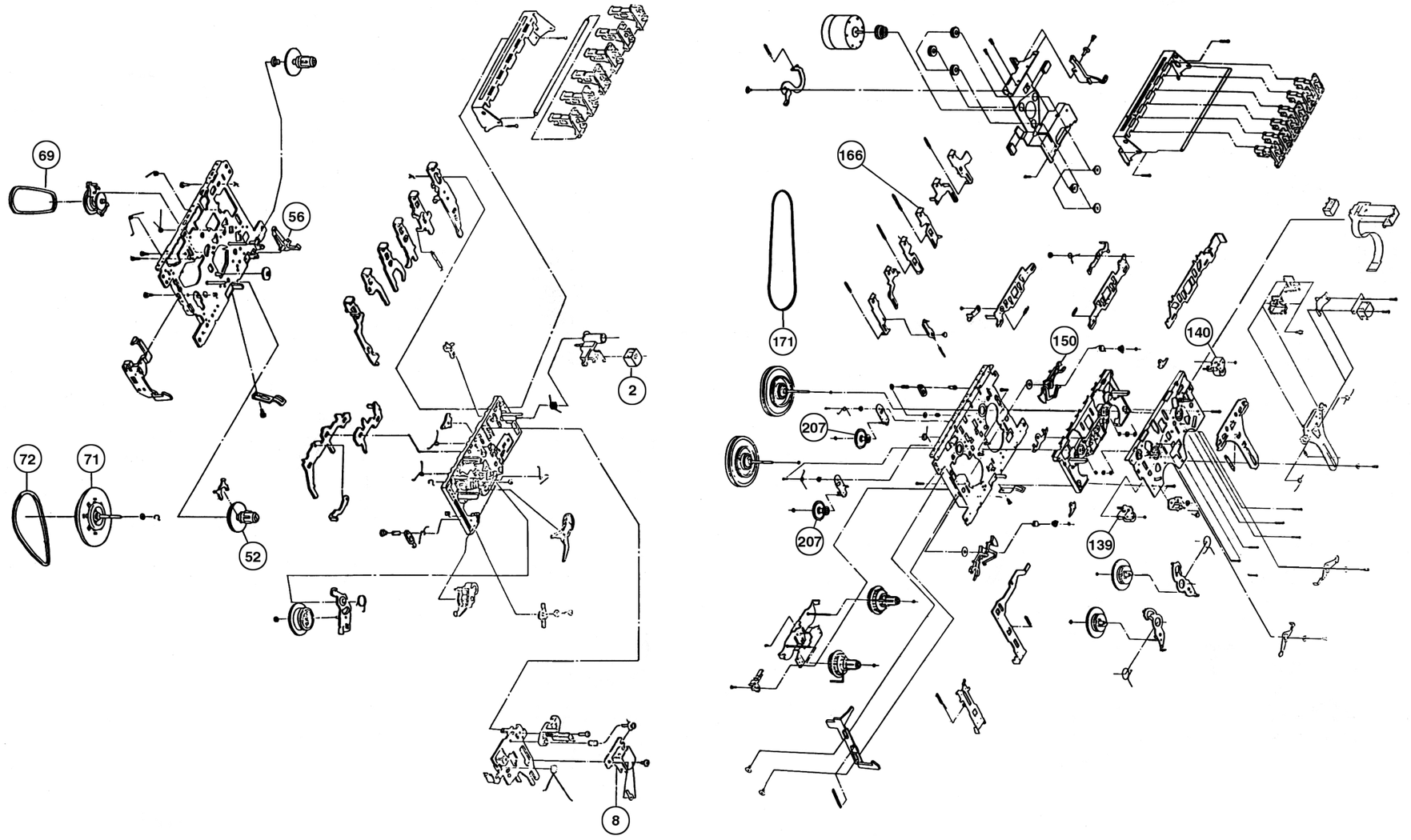


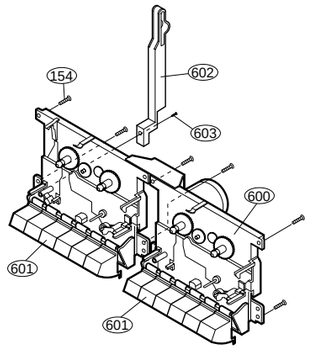




| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 154 | 353-025K | SCREW(3×12) |
| 600 | 6731RCC001A | DECK MECHANISM VALLEY WOOD CS-21SW |
| 601 | 4940SCC105A | KNOB FUNCTION(10EA) |
| 602 | 4510SCM003A | LEVER REC. |
| 603 | 353-022G | SCREW(2×4) |
| 626 | 4940SCC106A | KNOB PLAY(1EA) |

| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 6768RCHV01A | P/B HEAD |
| 2 | 6768RCKV01A | BUTTON ASSY |
| 3 | 6768RCHV01B | R/P HEAD |
| 4 | 6768RCHV01C | ERASE HEAD |
| 5 | 6768RCRV01A | PINCH ROLLER ARM ASS'Y |
| 6 | 6768RCTV01A | LEAF SWITCH |
| 7 | 6768RCGV01B | TAKE UP REEL ASS'Y |
| 8 | 6768RCGV01A | REEL ASS'Y |
| 9 | 6768RCTV01B | LEAF SWITCH |
| 10 | 6768RCBV01B | MAIN BELT |
| 11 | 6768RCBV01A | RF. BELT |
| 12 | 6768RCOV01A | MOTOR |

## ■ DECK SETCTION (Auto-Reverse Deck)



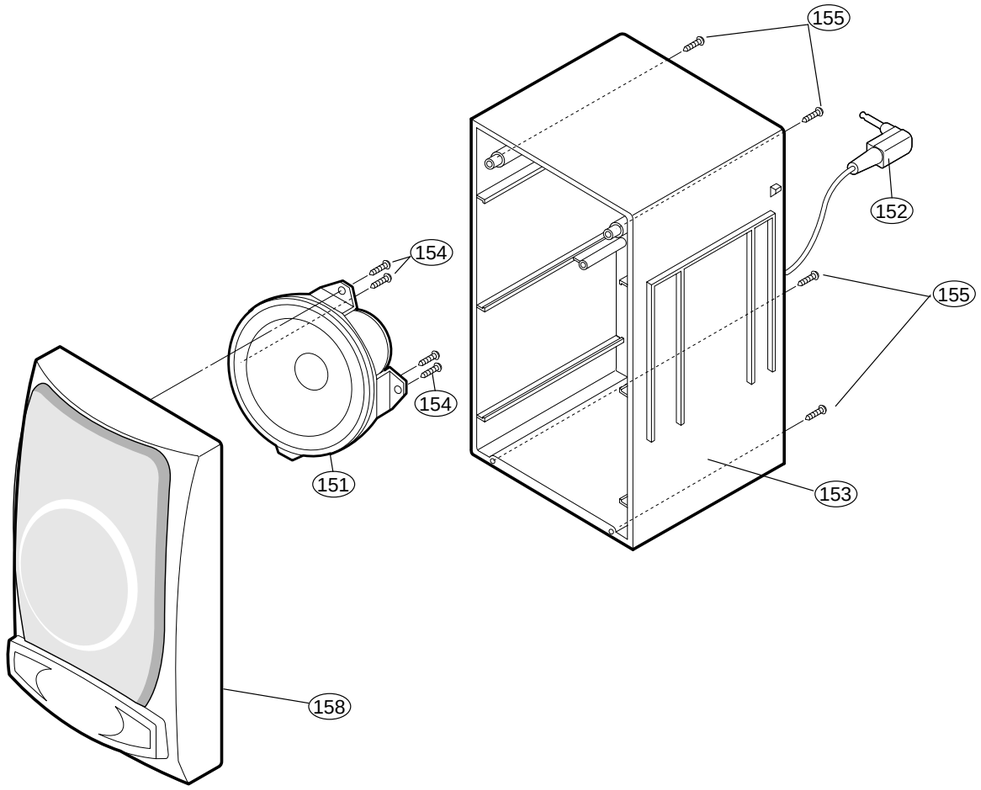




| REF NO. | Part NO. | DESCRIPTION |
|---|---|---|
| 154 | 353-025K | SCREW(3×12) |
| 600 | 419-112A | DECK MECHANISM YN-921ZSW-08 |
| 601 | 4940SCC105A | KNOB FUNCTION(12EA) |
| 602 | 4510SCM003A | LEVER REC. |
| 603 | 353-022G | SCREW(2×4) |

| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 2 | 99T-0537 | Erase Head |
| 8 | 99T-9986 | R/P Head |
| 28 | 99Y-0027 | Pinch Roller Ass'y |
| 52 | 99Y-0045 | Take Up Reel Ass'y |
| 56 | 99Y-0129 | Rec. Safety Lever |
| 57 | 99Y-0051 | F.F Gear |
| 69 | 99Y-0063 | RF Belt |
| 71 | 99Y-0065 | Flywheel Pulley Ass'y |

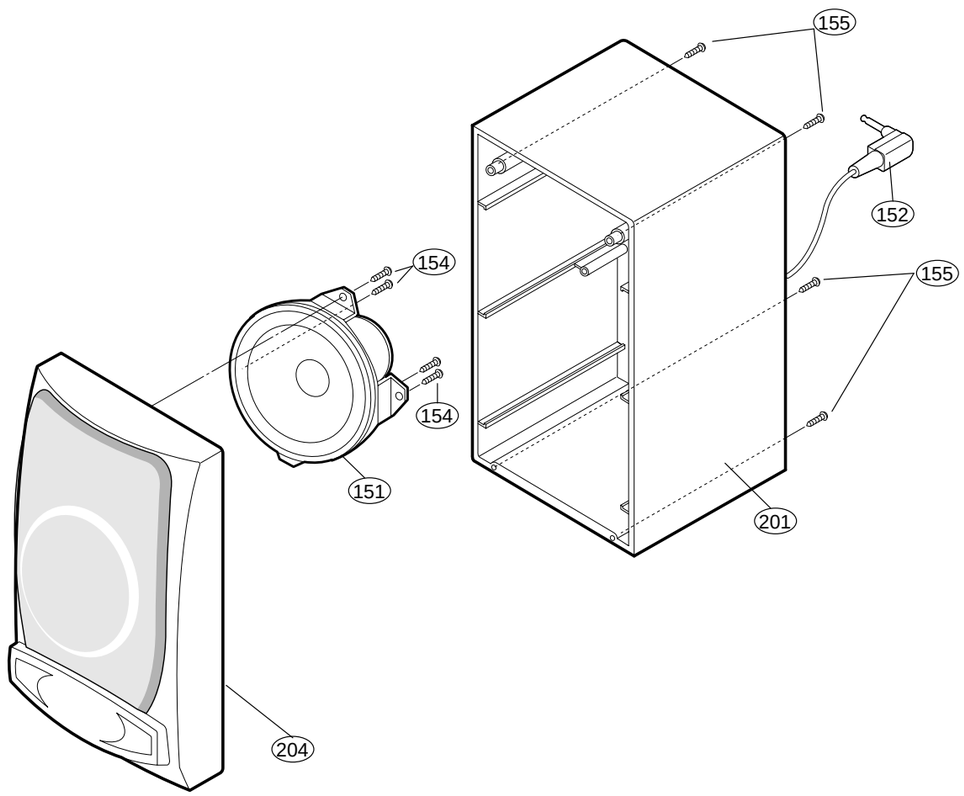
| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 72 | 99Y-0067 | Main Belt |
| 139 | 99Y-0329 | Pinch Roller Arm F |
| 140 | 99Y-0330 | Pinch Roller Arm R |
| 150 | 99Y-0340 | Detector Lever R |
| 166 | 99Y-0356 | Rew Lever |
| 171 | 99Y-0361 | Main Belt "A" |
| 207 | 99Y-0396 | F.R Gear |
| 216 | 99Y-0201 | Motor EG530YD2BH |

## ■ SPEAKER SECTION-LEFT




| Ref. No. | Part No. | Description |
|---|---|---|
| 151 | 6400SCSE01A | SPEAKER 8 OHM |
| 152 | 6852SCK001A | CORD SPEAKER |
| 153 | 3110SCM035A | CASE SPK REAR-L |
| 154 | 353-025K | SCREW (3×12) |
| 155 | 353-025N | SCREW (3×24) |
| 158 | 3111RC0005A | CASE FRONT-L + GRILLE METAL |

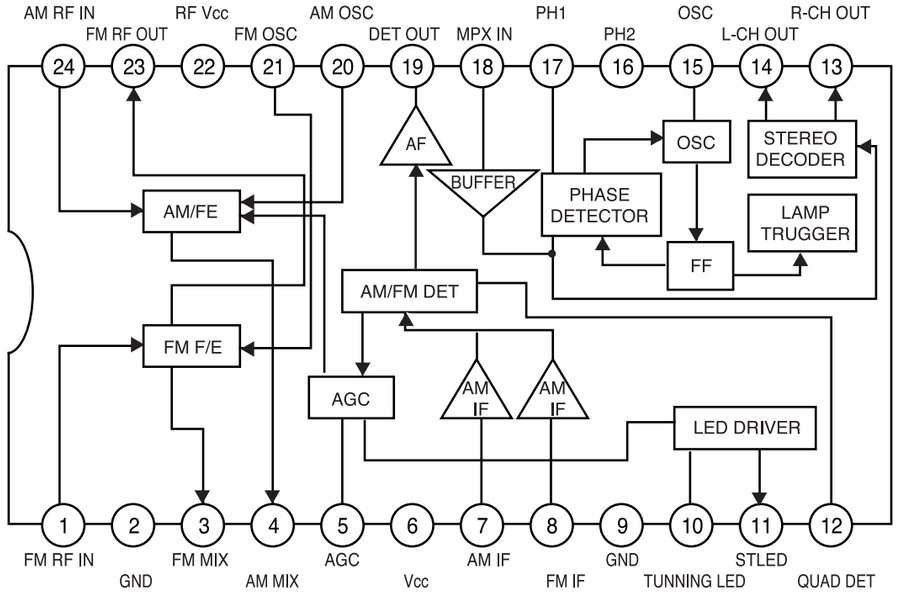
## ■ SPEAKER SECTION-RIGHT



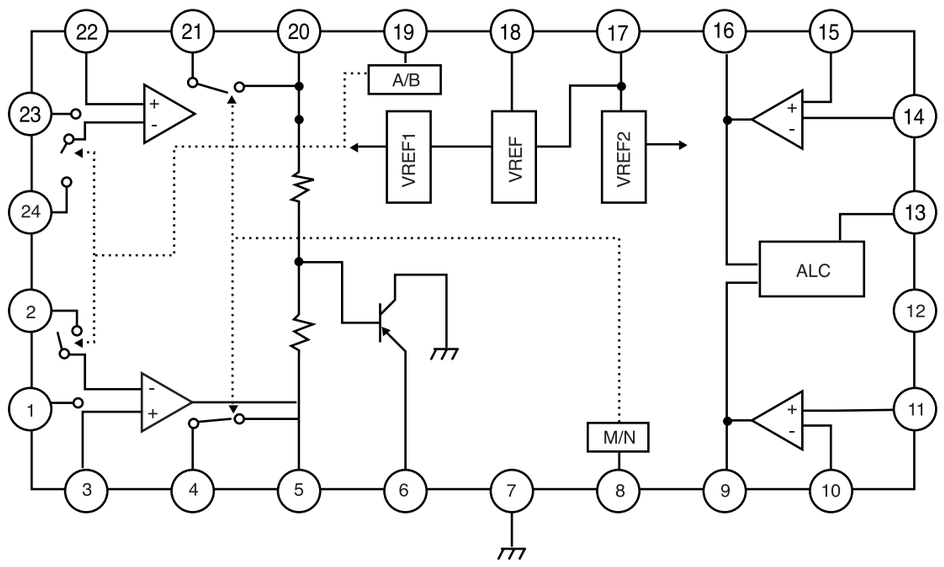

| Ref. No. | Part No. | Description |
|---|---|---|
| 151 | 6400SCSE01A | SPEAKER 8 OHM |
| 152 | 6852SCK001A | CORD SPEAKER |
| 154 | 353-025K | SCREW (3×12) |
| 155 | 353-025N | SCREW (3×24) |
| 201 | 3110SCM035B | CASE SPK REAR-R |
| 204 | 3111RC0005B | CASE FRONT-R + GRILLE METAL |

# INTERNAL BLOCK DIAGRAM OF IC

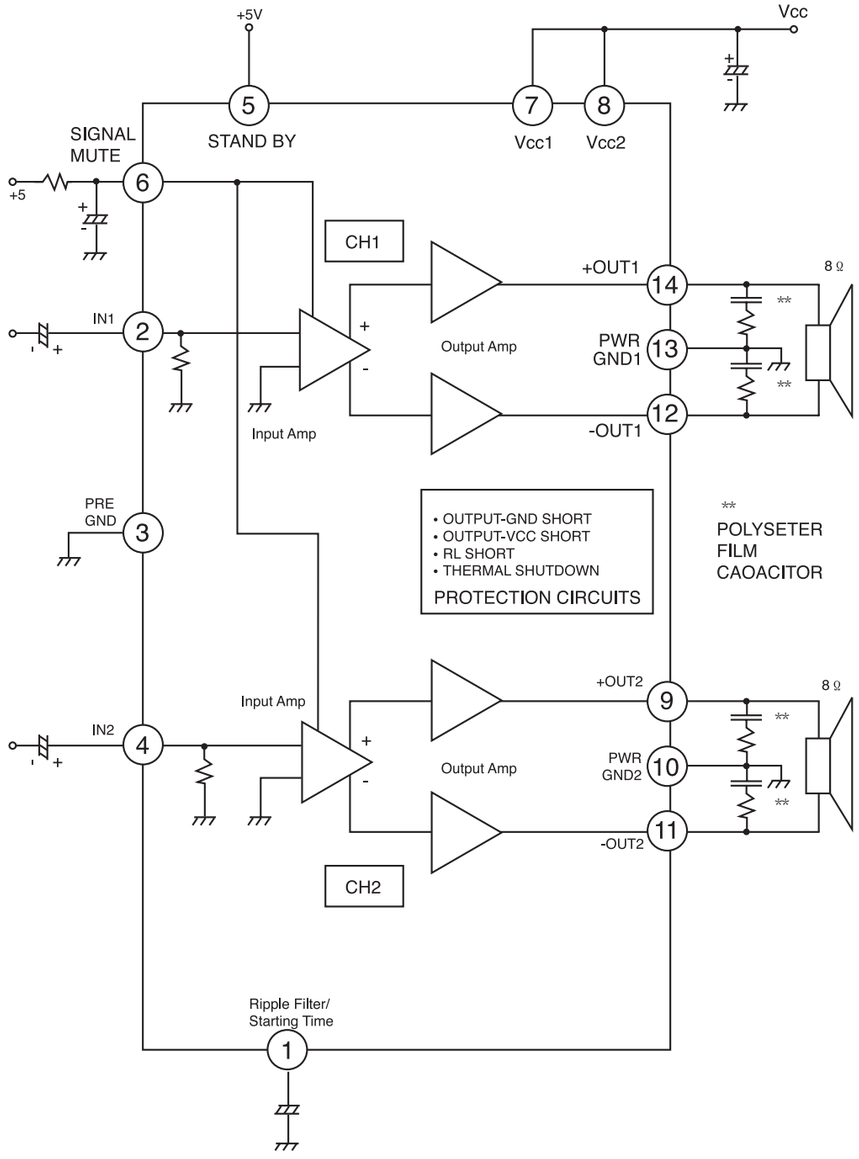
## ■ KA22901



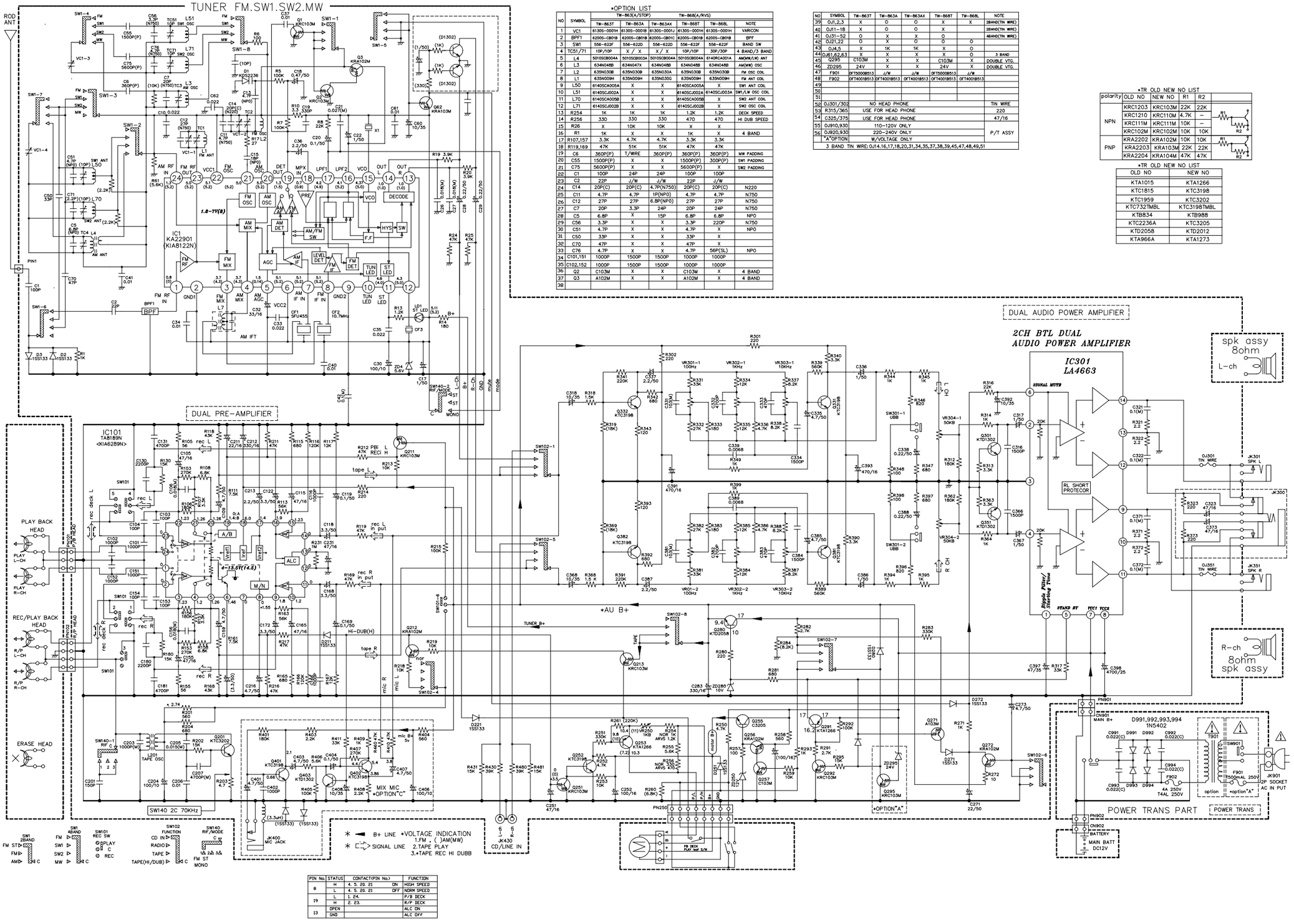

## ■ KIA6289




## ■ LA4663



# SCHEMATIC DIAGRAM




*OPTION LIST

| NO | SYMBOL | TW-863(A/STOP) | | | TW-868(A/RVS) | | | |
|---|---|---|---|---|---|---|---|---|
| | | TW-863T | TW-863A | TW-863AX | TW-868T | TW-868A | TW-868L | NOTE |
| 1 | VC1 | 61305-0001H | 61305-0001B | 61305-0001J | 61305-0001H | 61305-0001H | | VARICON |
| 2 | BPF1 | 62005-C801B | 62005-C801B | 62005-C801C | 62005-C801B | 62005-C801B | | BPF |
| 3 | SW1 | 556-622F | 556-622D | 556-622D | 556-622F | 556-622F | | BAND SW |
| 4 | TC51/71 | 10P/10P | X / X | X / X | 10P/10P | 30P/30P | | 4 BAND/3 BAND |
| 5 | L4 | 5010SC8004A | 5010SC8003A | 5010SC8004A | 5010SC8004A | 6140RCA001A | | AM(MW/LW) ANT |
| 6 | L3 | 634N048B | 634N047X | 634N048B | 634N048B | 634N048B | | AM(MW) OSC |
| 7 | L2 | 635N030B | 635N030B | 635N030A | 635N030B | 635N030B | | FM OSC COIL |
| 8 | L1 | 635N009H | 635N009H | 635N030G | 635N009H | 635N009H | | FM ANT COIL |
| 9 | L50 | 61405CA005A | X | X | 61405CA005A | X | | SW1 ANT COIL |
| 10 | L51 | 61405CJ002A | X | X | 61405CJ002A | 61405CJ003A | | SW1/W OSC COIL |
| 11 | L70 | 61405CA005B | X | X | 61405CA005B | X | | SW2 ANT COIL |
| 12 | L71 | 61405CJ002B | X | X | 61405CJ002B | X | | SW2 OSC COIL |
| 13 | R254 | 1K | 1K | 1K | 1.2K | 1.2K | | DECK SPEED |
| 14 | R256 | 330 | 330 | 330 | 470 | 470 | | HI DUB SPEED |
| 15 | R26 | X | 10K | 10K | X | X | | |
| 16 | R1 | 1K | X | X | 1K | X | | 4 BAND |
| 17 | R107,157 | 3.3K | 4.7K | 4.7K | 3.3K | 3.3K | | |
| 18 | R119,169 | 47K | 51K | 51K | 47K | 47K | | |
| 19 | C6 | 360P(P) | T/WIRE | 360P(P) | 360P(P) | 360P(P) | | MW PADDING |
| 20 | C55 | 1500P(P) | X | X | 1500P(P) | 300P(P) | | SW1 PADDING |
| 21 | C75 | 5600P(P) | X | X | 5600P(P) | X | | SW2 PADDING |
| 22 | C1 | 100P | 24P | 24P | 100P | 100P | | |
| 23 | C2 | 22P | J/W | J/W | 22P | J/W | | |
| 24 | C14 | 20P(C) | 20P(C) | 4.7P(N750) | 20P(C) | 20P(C) | | N220 |
| 25 | C11 | 4.7P | 4.7P | 1P(NP0) | 4.7P | 4.7P | | N750 |
| 26 | C12 | 27P | 27P | 6.8P(NP0) | 27P | 27P | | N750 |
| 27 | C7 | 20P | 3.3P | 24P | 20P | 24P | | N750 |
| 28 | C5 | 6.8P | X | 15P | 6.8P | 6.8P | | NP0 |
| 29 | C56 | 3.3P | X | X | 3.3P | 220P | | N750 |
| 30 | C51 | 4.7P | X | X | 4.7P | X | | NP0 |
| 31 | C50 | 33P | X | X | 33P | X | | |
| 32 | C70 | 47P | X | X | 47P | X | | |
| 33 | C76 | 4.7P | X | X | 4.7P | 56P(SL) | | NP0 |
| 34 | C101,151 | 1000P | 1500P | 1500P | 1000P | 1000P | | |
| 35 | C102,152 | 1000P | 1500P | 1500P | 1000P | 1000P | | |
| 36 | Q2 | C103M | X | X | C103M | X | | 4 BAND |
| 37 | Q3 | A102M | X | X | A102M | X | | 4 BAND |
| 38 | | | | | | | | |

| NO | SYMBOL | TW-863T | TW-863A | TW-863AX | TW-868T | TW-868L | NOTE |
|---|---|---|---|---|---|---|---|
| 39 | OJ1,2,3 | X | O | O | X | X | 2BAND(TN WIRE) |
| 40 | OJ11-18 | X | O | O | X | | 2BAND(TN WIRE) |
| 41 | OJ31-52 | O | X | X | O | | 4BAND(TN WIRE) |
| 42 | OJ21,22 | O | X | O | O | O | |
| 43 | OJ4,5 | X | 1K | 1K | X | O | |
| 44 | OJ61,62,63 | X | X | X | X | O | 3 BAND |
| 45 | Q295 | C103M | X | X | C103M | X | DOUBLE VTG. |
| 46 | ZD295 | 24V | X | X | 24V | X | DOUBLE VTG. |
| 47 | F901 | 0FT5000B513 | J/W | J/W | 0FT5000B513 | J/W | |
| 48 | F902 | 0FT4001B513 | 0FT4001B513 | 0FT4001B513 | 0FT4001B513 | 0FT4001B513 | |
| 49 | | | | | | | |
| 50 | | | | | | | |
| 51 | | | | | | | |
| 52 | OJ301/302 | NO HEAD PHONE | | | | | TIN WIRE |
| 53 | R315/365 | USE FOR HEAD PHONE | | | | | 220 |
| 54 | C325,375 | USE FOR HEAD PHONE | | | | | 47/16 |
| 55 | OJ910,930 | 110~120V ONLY | | | | | P/T ASSY |
| 56 | OJ920,930 | 220~240V ONLY | | | | | |
| | *A"OPTION | W/VOLTAGE ONLY | | | | | |

3 BAND TIN WIRE: OJ1,4,16,17,18,20,31,34,35,37,38,39,45,47,48,49,51

*TR OLD NEW NO LIST

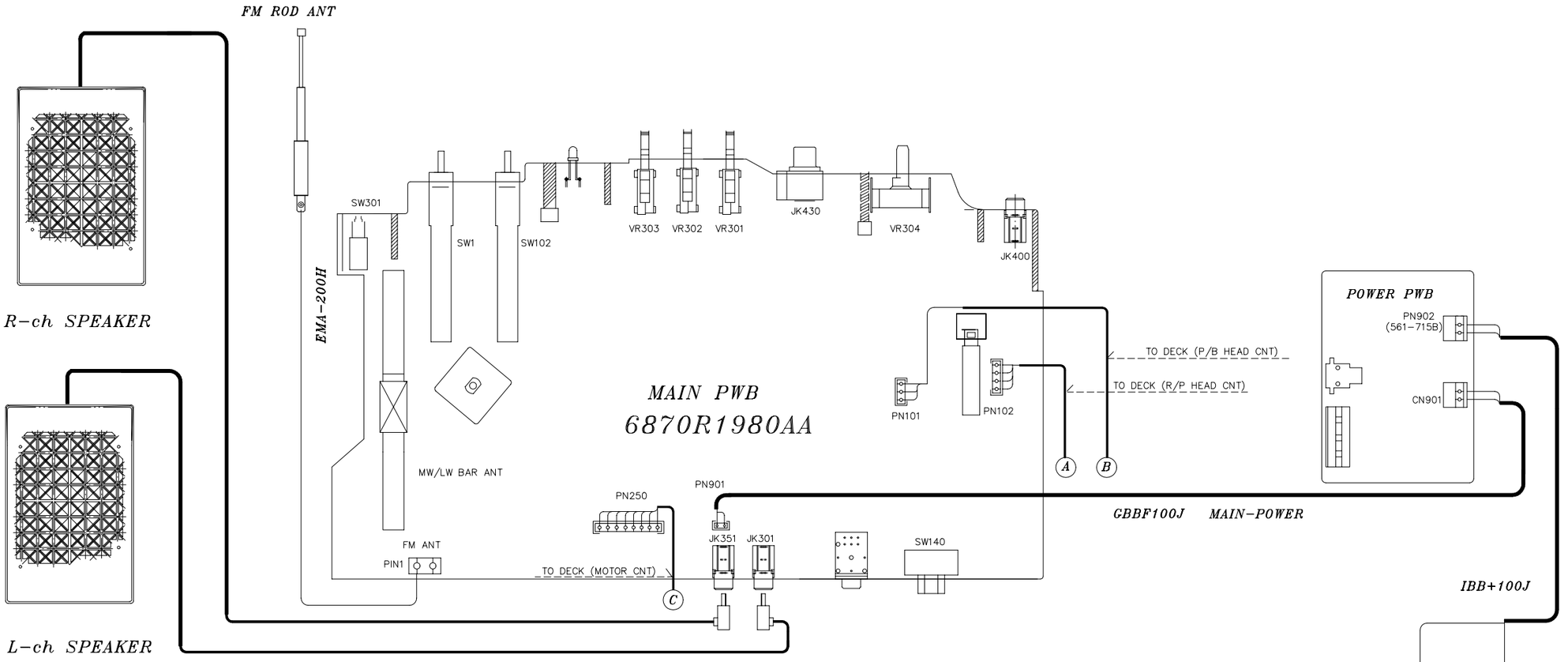
| polarity | OLD NO | NEW NO | R1 | R2 |
|---|---|---|---|---|
| NPN | KRC1203 | KRC103M | 22K | 22K |
| | KRC1210 | KRC110M | 4.7K | – |
| | KRC111M | KRC111M | 10K | – |
| | KRC102M | KRC102M | 10K | 10K |
| PNP | KRA2202 | KRA102M | 10K | 10K |
| | KRA2203 | KRA103M | 22K | 22K |
| | KRA2204 | KRA104M | 47K | 47K |

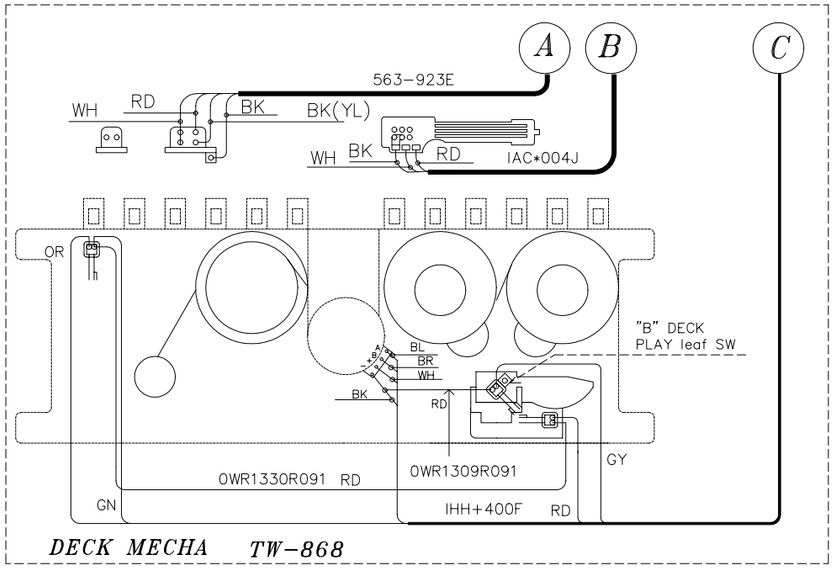
*TR OLD NEW NO LIST

| OLD NO | NEW NO |
|---|---|
| KTA1015 | KTA1266 |
| KTC1815 | KTC3198 |
| KTC1959 | KTC3202 |
| KTC7327MBL | KTC3198TMBL |
| KTB834 | KTB988 |
| KTC2236A | KTC3205 |
| KTD2058 | KTD2012 |
| KTA966A | KTA1273 |

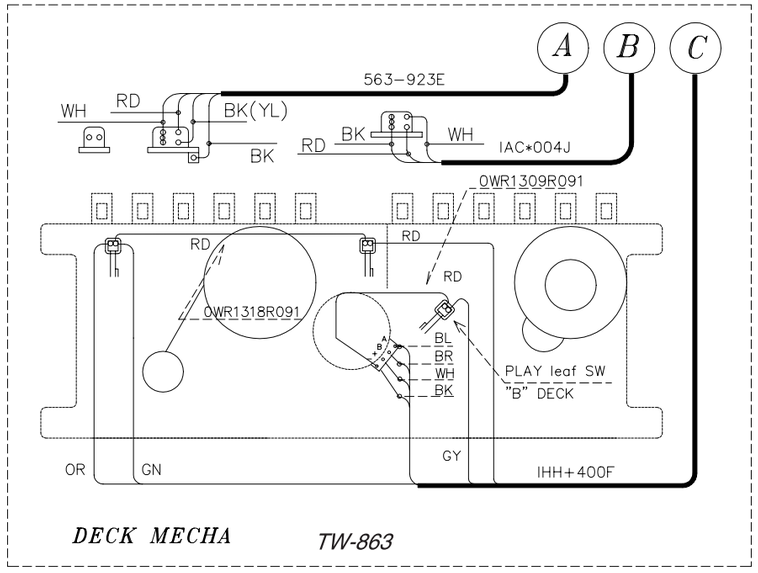
| PIN No. | STATUS | CONTACT(PIN No.) | | FUNCTION |
|---|---|---|---|---|
| 8 | H | 4. 5. 20. 21 | ON | HIGH SPEED |
| | L | 4. 5. 20. 21 | OFF | NORM SPEED |
| 19 | L | 1. 24. | | P/B DECK |
| | H | 2. 23. | | R/P DECK |
| 13 | OPEN | | | ALC ON |
| | GND | | | ALC OFF |

# WIRING DIAGRAM

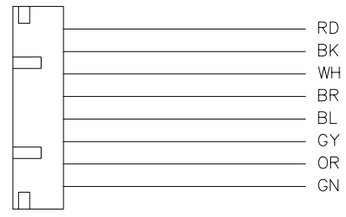



AUTO REVERSE DECK




NON AUTO REVERSE/AUTO STOP DECK



# BLOCK DIAGAM